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The Great Escape:

The Role of Self-esteem and Self-related Cognition in Terror Management

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Abstract

Integrating terror management theory and objective self-awareness theory, we propose the existential escape hypothesis, which states that people with low self-esteem should be especially prone to escaping self-awareness as a distal response to thoughts of death. This is because they lack the means to bolster the self as a defense, and the propensity to bolster the self reduces the motivation to escape from self-awareness. Five studies supported this hypothesis. Individuals low, but not high, in self-esteem scored lower on a measure of private self-awareness (Study 1), showed less implicit self-activation (Studies 2 & 3), were more likely to choose to write about others than themselves (Study 4), and consumed more alcohol in a field study at a nightclub (Study 5) in response to mortality reminders. Implications for terror management theory (highlighting an additional route to defend against mortality awareness), self-regulation, physical health and well-being are discussed.

KEYWORDS: terror management theory; self-awareness; self-esteem; escape

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"Modern (wo)-man is drinking and drugging himself out of awareness, or he spends his time shopping, which is the same thing. As awareness calls for types of heroic dedication that his culture no longer provides for him, society contrives to help him forget."

Becker, 1973

Cultural anthropologist Ernest Becker (1973) posited that the capacity to reflect on the self poses a problem for human beings—the awareness of the existence of the self signifies that the self can also cease to exist. One way to address this problem is to employ symbolic, cultural, solutions that imbue life with meaning, and the conviction that the self in some way or the other extends beyond death (Psyzczynski, Greenberg, Solomon, Arndt & Schimel, 2004). Numerous studies, inspired by terror management theory (TMT; Greenberg Pyszczynski & Solomon, 1986), support the assertion that symbolic solutions (e.g., self-esteem, worldviews) protect people from the psychological threat posed by the awareness of mortality. However, the much more direct role of shutting down self-awareness, or 'losing' the self, as a means of coping with mortality concerns (Becker, 1973; Wisman, 2006) has received considerably less empirical attention.

According to objective self-awareness (OSA) theory (Duval & Wicklund, 1972) people are especially motivated to escape self-awareness when they do not believe that they can reduce the discrepancies between who they are and who they feel they should be or want to be. Integrating TMT and objective self-awareness (OSA) theory (Duval & Wicklund, 1972), we propose and test the *existential escape hypothesis* (Wisman, 2006), which posits that non-conscious reminders of mortality motivate an 'escape' from the self/self-awareness, but only among people with lower levels of self-esteem. When reminded of death, people with low self-esteem are less prone to bolstering the self (Landau & Greenberg, 2006) and are

more likely to experience a range of psychological maladjustments, such as heightened negative affect, reduced hope, and reduced belief that life is meaningful (Juhl & Routledge, 2014; Routledge et al., 2010; Wisman & Heflick, 2015). Thus, low self-esteem individuals should be especially prone to escape the self when thinking about death. We report herein five studies consistent with the existential escape hypothesis.

Symbolic Ways to Manage Existential Awareness

Becker argued in *The Denial of Death* (1973) that the paradox of the human condition, a predisposition for self-preservation coupled with the pervasive awareness of the self and its eventual and inescapable demise, is at the core of human motivation. In response to this paradox, humans created elaborate systems of meaning and value (i.e., cultures) that provide symbolic immortality or literal immortality, and a pathway of cultural standards by which to obtain self-esteem. Thus, it is through culture, and the meaning and immortality it provides, that humans cope with mortality awareness.

Based on the writings of Becker and other existential thinkers, TMT provides a systematic analysis of how humans manage the existential terror that can spring from the awareness of personal mortality (Greenberg, Solomon, & Pyszczynski, 1997). According to TMT, individuals manage the problem of personal death awareness through two types of defenses: proximal and distal. With proximal (immediate) defenses people aim to suppress thoughts of their personal mortality (e.g. “I am not going to think about this stuff”), distract themselves from death thoughts (e.g. “Lovely weather indeed”), or downplay the importance of the problem (e.g. “I will die; so what?”). Proximal defenses work by removing the problem of death from consciousness temporarily (Arndt, Greenberg, Solomon, Pyszczynski & Simon, 1997). However, proximal defenses do not provide a solution to the problem of death awareness. As research demonstrates, after individuals employ proximal defenses, death-

related thoughts are still accessible outside conscious awareness (Greenberg, Pyszczynski, Solomon, Simon, & Breus, 1994).

In contrast to proximal defenses, distal defenses occur outside focal attention (e.g., in an experimental paradigm, when a delay follows the explicit contemplation of death or when death is primed subliminally), and aim to provide a symbolic solution to the problem of mortality awareness. According to TMT, humans acquire symbolic solutions to the problem of death by living up to the standards and values championed by their culture. Specifically, the management of terror is posited to occur via a symbolic defense system. In this system, culturally constructed views of the world (worldviews) provide protection by offering a sense of meaning and, importantly, an avenue to symbolic immortality for individuals who uphold cultural standards (Greenberg et al., 1997). People who perceive themselves as living up to these meaning-conferring cultural standards (i.e., people with high self-esteem) are part of something significant and lasting, and thereby transcend concerns about mortality. Thus, it is through these distal defenses that death-related thoughts are eliminated (Pyszczynski et al., 2004).

The majority of TMT studies have focused on the *mortality salience hypothesis*. This hypothesis states that if worldviews and self-esteem buffer non-conscious concerns about mortality, activating an awareness of mortality (outside of focal attention, at a distal level) should increase reliance on these structures. In support of the mortality salience hypothesis, increases in worldview defense and self-esteem striving are routinely observed as a distal defense to mortality awareness (see Burke, Martens & Faucher, 2010, for review). For instance, mortality salience promotes ingroup humanization and favoritism (Castano, 2004; Vaes, Heflick & Goldenberg, 2010), more punitive judgments of people who violate cultural norms (Florian & Mikulncer, 1997), and increased disagreement with anti-nationalist essays (Greenberg et al., 2003). People even increase their intentions to engage in behaviors with

clear health risk (e.g., tanning), if the behavior is associated with self-esteem (Goldenberg & Arndt, 2008; Routledge, Arndt & Goldenberg, 2004).

TMT (Pyszczynski, Greenberg & Solomon, 1999) also posits the *death thought accessibility hypothesis*, which states that to the extent that worldviews and self-esteem function to buffer mortality concerns, strengthening these structures should reduce non-conscious death-related thoughts, and weakening these structures should increase them. In one series of studies, individuals who highly identified with their nation showed increased death thought accessibility after reading an essay that criticized their nation (Schimel, Hayes, Williams, & Jahrig, 2007). Similar effects have been found when self-esteem is challenged (Hayes, Schimel & Williams, 2008a), and when Christians read essays criticizing the Bible (Friedman & Rholes, 2008). Conversely, defending one's values, or even hearing that people with opposing worldviews have died, decreases the accessibility of death thoughts (Hayes, Schimel & Williams, 2008b; Schmeichel & Martens, 2005).

Consistent with research depicting self-esteem as a resource that insulates individuals from psychological threats (e.g., Brown, 2010; Taylor, Lerner, Sherman, Sage, & McDowell, 2003), research on the *anxiety buffer hypothesis* in TMT suggests that high self-esteem provides protection from defensiveness in response to thoughts of death. In an initial test of this hypothesis, when self-esteem was boosted by giving participants positive feedback on a personality test, they reported less anxiety in response to graphic video depictions of death (Greenberg et al., 1992) and less propensity to deny that death could come early in their life (Greenberg et al., 1993). Research also demonstrates that people low, but not high, in self-esteem experience heightened negative affect when reminded of death (Routledge et al., 2010; Wisman & Heflick, 2015), and self-esteem is negatively correlated with death anxiety across the lifespan (Cicereli, 2001; Davis, Martin, Wilee & Vorhees, 1978), and cross-culturally (Du et al., 2013). In addition, Harmon-Jones et al. (1997) demonstrated that

experimentally enhanced, and high trait, self-esteem is associated with less death thought accessibility in response to reminders of one's mortality, as compared to a moderate self-esteem condition.

Mortality and Losing the Self: Existing Research

Because the capacity to reflect on the self enables mortality awareness, Arndt, Greenberg, Simon, Pyszczynski and Solomon (1998) hypothesized that people would avoid self-focus when death thoughts are in current focal awareness, as this serves to distract people, albeit temporarily, from thoughts of death. Supporting this, participants spent less time writing about their mortality in a cubicle that contained a mirror (a validated self-awareness induction, cf. Duval & Wicklund, 1972) compared to one that did not; and immediately after being primed with mortality they spent less time on a writing task that prompted an internal focus of awareness compared to one that prompted an external focus. Similarly, it was shown that participants who were seated in a cubicle that contained a mirror reported more death related cognition than participants sitting in a cubicle without the mirror (Silvia, 2001). These and other studies suggest that self-awareness may be particular aversive in the context of mortality salience and people may avoid self-awareness as a *proximal* defense against conscious death thoughts (Arndt et al., 1998; Silva, 2001).

We suggest that, under some conditions, people may be motivated to escape the self as a *distal* defense, that is, when thoughts about death are accessible but not in conscious awareness. Providing indirect support for this notion, eating, which can function as self-escape behavior (Heatherton & Baumeister, 1991), has been found to reduce the effects of mortality salience on worldview defense (Hirschberger & Ein-Dor, 2005). Specifically, participants who were not offered food showed more severe judgments of social transgressions (a typical measure of symbolic worldview defense) when primed with mortality as compared to a control condition; in contrast, the effect was reversed for those

who ate sweet, pleasant tasting food (i.e., candy). In addition, a wide range of classic social psychology studies (Diener, 1979; Milgram, 1974; Mullen, 1991; Zimbardo, 1973) demonstrate that group immersion can reduce self-awareness, as people become less focused on (the potential for) negative social evaluations (Mann, Newton, & Innes, 1982). Thus, that reminders of mortality promote a tendency to sit within a group, as opposed to sitting alone, is also consistent with the proposition that people may escape the self as a distal defense (Wisman & Koole, 2003).

In summary then, although these studies were not designed to directly test the proposition that reminders of mortality increase behaviors and cognitions that are associated with escaping the self at a distal level, they are consistent with this position.

The Existential Escape Hypothesis

We posit that people can employ two fundamentally different strategies to distally regulate awareness of personal mortality. First, as extensively shown by TMT research to date, individuals can use the symbolic self (e.g. cultural worldviews, self-esteem) as a distal defense to reminders of mortality. Second, there is evidence consistent with the possibility that reminders of mortality may increase behavior and cognitions that help to lose the self as an alternative distal defense. But, *when* and *which people* 'use' or 'lose' the symbolic self to reduce existential concerns? OSA theory (Duval & Wicklund, 1972; Wicklund & Gollwitzer, 1981; 1982) and the related self-discrepancy theory (Higgins, 1987) provide an explanatory framework for answering this question.

According to OSA theory, when people become aware of themselves as an object of evaluation, they become more aware of the discrepancies between their actual self and the standards set for the self (see also Higgins, 1987). This discrepancy, in turn, arouses negative affect (Mor & Windquist, 2002), which motivates individuals to either avoid self-awareness or reduce the discrepancy. When the discrepancies are large, or people feel unable to reduce

the discrepancies, people are more likely to avoid self-awareness (Duval, Duval & Mulilis, 1992; see also, Carver & Scheier, 1981). Indeed, when individuals experience a situational threat to their self-esteem (e.g., negative feedback on their performance) they attempt to escape self-awareness, for example, by avoiding mirrors (Duval & Wicklund, 1972), and removing the focus from the self with activities, such as watching television (Moskalenko & Heine, 2003). As self-awareness intensifies negative mood states (Mor & Windquist, 2002; Phillips, & Silvia, 2005), self-awareness may also be especially aversive to people with low self-esteem, as low self-esteem is axiomatically associated with negative affect (Brockner, 1983). Moreover, whenever the self is accessible (e.g., private self-awareness) people with low self-esteem are more likely to experience negative self-discrepancies (Cheng et al., 2012; Ickes Wicklund & Ferris, 1972; Pysczycynski & Greenberg, 1987). In view of this, perhaps not surprisingly, low self-esteem (dispositional and manipulated) in conjunction with self-awareness has also been implicated in escape behaviors such as binge eating (e.g., Polivy, Heatherton, & Herman, 1988; Heatherton, Herman, & Polivy, 1991) and drinking alcohol (Hull & Young, 1983). Thus, people with low self-esteem are prone to coping with the burden of negative self-discrepancies by escaping self-awareness (losing the self). In contrast, people with high self-esteem experience less negative self-discrepancies (Barnett, Wornack, & Palee, 2015), and according to OSA theory, are therefore more likely to cope by attempting to narrow the self-discrepancies (using the self).

In a similar vein, when people ponder their personal mortality they may become aware of the discrepancy between their desire to live and the knowledge that they must die. We call the desire to live and the unique human ability to understand that life is finite an *existential discrepancy*. From the perspective of TMT, people reduce this discrepancy with increased efforts to live up to self-relevant, culturally derived standards. There is evidence though that self-enhancement and worldview defense in response to mortality reminders are

defenses employed more frequently among people with high explicit self-esteem (Juhl & Routledge, 2014; Landau & Greenberg, 2006; McGregor, Gailliot, Vasquez & Nash, 2007; Schmeichel et al., 2009). Moreover, people that lack self-esteem in a certain self-aspect, such as driving or their physical appearance, do not identify more with that construct when reminded of death (Goldenberg, McCoy, Greenberg, Pyszczynski & Solomon, 2000; Taubman Ben-Ari, Florian & Mikulincer, 1999). As low self-esteem is associated with less perceived self-competence and self-liking (Taforadi & Swann, 1995), it is likely that low self-esteem individuals have fewer self-related domains to bolster the self with when coping with mortality concerns.

Consistent with evidence that people high in self-esteem more successfully employ distal defenses involving self- and worldview enhancement, Routledge et al. (2010) found in a series of eight experiments that people low (but not high) in self-esteem take a hit to their psychological well-being at a *distal level* in response to non-conscious mortality reminders. Low self-esteem (measured or manipulated) in conjunction with mortality reminders led to decreased satisfaction with life, subjective vitality, meaning in life, and exploration, and increased negative affect, state anxiety, and social avoidance. Individuals with low, but not high, self-esteem also experience reduced hope (Wisman & Heflick, 2015) and heightened search for meaning in life (Juhl & Routledge, 2014) distally when pondering their own mortality.

Thus, from the perspective of OSA theory, people with high self-esteem are more likely to strive to reduce the discrepancy between their actual selves and their standards, whereas people low in self-esteem are more likely to avoid self-awareness. And, according to TMT research, people with low self-esteem are not only are less insulated from the effects of mortality salience (i.e., have less of an anxiety buffer against mortality salience, e.g., Harmon-Jones et al., 1997; Routledge et al., 2010), but they also do not as readily self-

enhance in response to mortality salience (e.g., Landau & Greenberg, 2006), and therefore are often left without a clear way to regulate existential concerns. Thus, bridging OSA theory and TMT paves the way for a novel TMT hypothesis*:* the existential escape hypothesis (Wisman, 2006), which states that people low in self-esteem are likely to increase cognitions and behaviors that are directed at "shutting down" the self and escaping self-awareness in response to reminders of their own mortality.

The Current Research and Hypotheses

We conducted five studies to examine the existential escape hypothesis. Studies 1-4 examined self-awareness, and the motivation to escape it, using an explicit self-awareness scale (Studies 1), implicit self-activation (Studies 2 & 3) and a decision task to write about the self or another person (Study 4). Study 5 explored a behavioral ramification of existential escape—alcohol consumption—in a field study at a nightclub. Alcohol consumption reduces distress and general self-awareness, and as such, has been implicated as an escape behavior (e.g., Hull, Levenson, Young, & Sher, 1983). In contrast, individuals with high self-esteem were not expected to show any such effects, consistent with the notion that they are more capable of using the symbolic self to cope with mortality concerns. All five experiments were conducted in accordance with APA standards for the ethical treatment of human participants, and gained the prior approval by the Ethics Committee of the Institute. Written consent was obtained from all participants involved in these experiments. Participants were all fully debriefed. [1]

Study 1

Study 1 was designed to provide a first test of the existential escape hypothesis, which states that only people with low self-esteem will show reduced self-awareness in response to mortality salience. A well validated measure of private self-awareness was used to test self-awareness at a conscious, explicit level.

Method

Participants

Sixty-nine undergraduate students from the University of Kent (60 women and 9 men, M_{age} = 20.13) participated for course credit in a study ostensibly concerned with the relationship among personality characteristics.

Procedure and Materials

Participants completed materials in a laboratory on a standard PC equipped with Authorware 7.1 software. After a couple of filler questionnaires participants were presented with the Rosenberg Self-esteem Scale (Rosenberg, 1965), which measures global feelings about the self with 10 items such as, "I take a positive attitude toward myself," and "I certainly feel useless at times" (reversed). Responses are assessed using a 5-point agreement format, where 1 = *strongly disagree*, and 5 = *strongly agree*. In a review of major measures of self-esteem (Blascovich & Tomaka, 1991), Rosenberg's Self-esteem Scale was found to have excellent psychometric properties, such as internal consistency, test-retest reliability, and convergent and discriminant validities (in Study 1; α = .89; *M* = 3.62, *SD* = .62).

Following the assessment of self-esteem, participants were then randomly assigned to a mortality salience or control condition (e.g., Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989). In the mortality salience condition, participants responded to two open-ended questions: "Briefly describe the emotions that the thought of your own death arouses in you" and "Jot down, as specifically as you can, what you think will happen to you physically as you die and once you are physically dead." The control condition consisted of two parallel items regarding the experience of intense physical pain so as to compare mortality salience with the salience of another aversive topic.

Next participants received the 20-item Positive and Negative Affect Schedule (PANAS; Watson, Clark, & Tellegen, 1988) in order examine immediate effects of self-

esteem and mortality salience on mood, directly after the experimental induction, and to provide a delay so that thoughts of death recede from consciousness (Arndt et al., 1997). Specifically, they indicated the extent to which each of 10 positive affect items (e.g., attentive; α = .89; *M* = 2.38, *SD* = 0.73) and 10 negative affect items (e.g., angry; (α = .76; *M* =1.47, *SD* = 0.44) reflected how they felt right at that moment (1 = *very slightly or not at all*, 5 = *extremely*). After the mood measurement, to further enable thoughts of death to recede from consciousness (Arndt, Greenberg, Pyszczynski & Solomon, 1997), participants also completed a simple and short dot-to-dot task in which they drew lines to connect numbered dots creating an image of a tree.

Finally, for the dependent variable, participants completed the Situational Self-Awareness Scale (SSAS; Govern & Marsch, 2001). The SSAS is a 9-item scale comprised of three factors: private self-awareness, public self-awareness, and attention to the situation, which has been used in dozens of studies. Our hypothesis was specific to private self-awareness because this is the type of self-awareness with which theories of self-regulation, like OSA theory, are concerned (Fejfar & Hoyle, 2000; Silvia, 2015). In contrast to public awareness (e.g., "I am concerned about what other people think of me") and situational awareness (e.g., "I am conscious of all objects around me"), the private self-awareness subscale directly taps into internally focused self-related thoughts independent of external influences (situational awareness and public awareness only correlate .3 to .4 with the private scale; Govern & Marsch, 2001). Specifically, we averaged participants' agreement (1 = *strongly disagree*, 5 = *strongly agree*) with three items reflecting private self-awareness (e.g., "Right now I am aware of my innermost thoughts," "Right now I am reflective about my life," and "Right now I am very conscious of my inner feelings;" *M* = 2.99, *SD* = .85). This scale had sufficient reliability (α = .73)

Results

First, we examined the effects of mortality salience and self-esteem on positive and negative affect. We found no effects involving mortality salience or the interaction between mortality salience and self-esteem (*p*s > .8), but did find a main effect of self-esteem on positive affect (lower self-esteem was associated with less of it, B =.42, SE = 1.36, $t(66)$ = 3.03, $p < .005$) and negative affect (lower self-esteem was associated with more of it, B = -.32, SE = .08, $t(66)$ = -4.15, $p < .001$). Importantly, the results below are not altered when including positive and negative affect as covariates.[2]

To test the primary hypothesis that individuals with low self-esteem, in contrast to individuals with higher levels of self-esteem, would decrease private self-awareness as a function of mortality salience, we conducted regression analysis in which we entered the main effects for the mortality salience manipulation dummy coded, and self-esteem (centered) in the first Step and the interaction at Step 2. No effects approached significance at Step 1, *p*s > .27. At Step 2, we observed the hypothesized self-esteem by mortality salience interaction, B = -.1, SE =.03, $t(65)$ = -3.06, p = .003, adjusted R^2 = .13 (see Figure 1). To deconstruct the interaction we examined the predicted mean comparisons at one standard deviation above and below the standardized self-esteem mean. Consistent with the existential escape hypothesis, at low levels of trait self-esteem, mortality salience decreased private self-awareness, relative to the control condition, B = -.78, SE = 0.28, $t(65)$ = -2.83, p = .006, whereas at high levels of trait self-esteem, there was no significant effect of mortality salience, B = 0.42, SE = 0.28, $t(65)$ = 1.52, p = .13 (with the pattern of means in the opposite direction). We also observed that, in the control condition, low trait self-esteem was associated with higher private self awareness, relative to high self-esteem, B = -.06, SE = .02, $t(65)$ = -2.95, p = .004, a difference that was not observed when mortality was rendered salient, B = .03, SE = .02, $t(65)$ = 1.42, p = .16.

We replicated the analysis on the two other subscales of the SSAS: public self-awareness and situational awareness. We observed one main effect of self-esteem for public self-awareness: lower self-esteem predicted higher levels of public self-awareness, B = -.07, SE =.02, $t(66)$ = -3.65, p = .001. No other effects approached significance (ps > .8), and critically, self-esteem did not interact with mortality salience for either of subscale (ps > .3).

Discussion

The findings of Study 1 provide support for the existential escape hypothesis: Reminders of mortality decreased private self-awareness relative to the control condition, but only for participants with low self-esteem. In the absence of morality salience, we also observed a tendency for participants with low self-esteem to exhibit higher levels of private self-awareness than participants with high self-esteem. Though not explicitly hypothesized, it makes sense that people with low trait self-esteem generally show heightened negative self-awareness, presumably as a function of negative self discrepancies (Cheng et al., 2012; Ickes Wicklund & Ferris, 1972; Pysczycynski & Greenberg, 1987; see also Silvia et al., 2011). In a similar vein, independent of the mortality salience prime, individuals with low self-esteem showed higher levels of public self-awareness suggesting that they were relatively more concerned with others people's thoughts and opinions of them. However, as expected, it was the internalized focus on the self, or private self-awareness, that individuals shifted their attention away from in response to mortality salience.

Moreover, these effects were not accounted for by positive and negative affect assessed immediately after the manipulation. We hasten to note that these findings do not preclude the possibility of negative affect as a distal response (Routledge et al., 2010); but relevant to the current framework, low self-esteem individuals under mortality salience were not presumably escaping self-awareness due to proximal changes in mood caused by thinking about their own death. This is consistent with hundreds of TMT studies demonstrating that

affect is not impacted as an immediate response to mortality salience, and that affect does not mediate distal outcomes in response to mortality salience (e.g., Greenberg et al., 2003; Landau et al., 2004).

Study 2

Study 1 was the first study to our knowledge to directly demonstrate that individuals low self-esteem response to non-conscious death thoughts with efforts to escape self-awareness. The aim of Study 2 is to replicate this finding using a more implicit measurement of self-related cognition (Silvia et al., 2013). To this end, we employed the Linguistic Implications Form (LIF; Wegner & Giuliano, 1980, 1983), a widely-used scale that measures state self-focus via how often people complete ambiguous sentences with first-person singular pronouns (Silvia et al., 2013; Snow et al., 2004).

Method

Participants

Participants were 98 North American users of Amazon Mturk (66 female; *M*age = 40.02, *SD* = 13.65) who received $0.40 for participating in a study described as a personality study.

Procedure and Materials

Participants completed materials online. The materials were the same as Study 1, with a couple of exceptions. After self-esteem was assessed (α = .92; *M* = 3.78, *SD* = .88), mortality salience was primed as in Study 1, but the comparison control condition involved answering two questions about visiting the dentist. Next, after the PANAS mood scale (α = .92; *M* = 2.98, *SD* = 0.93 for positive affect; α = .93; *M* =1.56, *SD* = 0.78 for negative affect), participants read a short story called ‘The Growing Stone’ by the French existentialist Albert Camus. This introduced an even longer delay compared to Study 1, assuring that responses represent distal defenses (Martens, Burke, Schimel, & Faucher, 2011).

We then measured state self-focussed attention with a short version of the LIF (Wegner & Giuliano, 1980, 1983). The LIF presents participants with 10 incomplete sentences that must be completed by choosing one of three pronouns, one of which implicates the self (me, myself, I). A sample item is, "The sun went in just when (we, she, I) decided to go out." The measure is scored by assigning a 1 to first-person singular pronouns and a 0 to all other pronouns, and summing up the number of self-relevant pronouns (M = 4.29 SD = 1.87)

Results

To test the hypothesis that participants with low self-esteem decrease self-state focussed attention when thoughts of death are activated outside of consciousness, we conducted regression analysis, as in Study 1. We entered mortality salience (dummy-coded) and mean-centered self-esteem at Step 1, and the interaction term at Step 2. At Step 1, no significant effects were observed (ps > .3). At Step 2, we found a significant interaction, B = -1.30, SE = .43, t(94) = -3.05, p = .003, adjusted R^2 = .11 (see Figure 2). As in Study 1, relative to people with high self-esteem, people with low self esteem showed higher self-focussed attention in the control condition, B = -.07, SE = .03, t(94) = -2.71, p =.008, but this effect was marginal in the mortality salience condition, B = -.06, SE = .03, t(94) = -1.75, p = .08. Critically, as in Study 1, mortality salience, relative to dentist salience, decreased self-focussed attention at low levels of self-esteem (-1 SD), B = -1.52, SE = .54, t(94) = -2.80, p =.006, but not at high levels of self-esteem (+1 SD), B = .81, SE = .51, t(94) = 1.58, p = .12 (with the pattern of means in the opposite direction; see Figure 2).

Discussion

Study 2 replicated Study 1 with an alternative aversive control condition (dentist visit salience) and a more extensive delay. Again, in the control condition participants low in trait self-esteem showed higher self-focused attention than people high in self-esteem. Moreover,

mortality salience reduced implicit self-focused attention for people low in self-esteem compared to the control condition, but this did not occur for people high in self-esteem. The dependent measure in this study bypassed self-report and tapped into an implicit tendency to avoid self-related cognition, suggesting that this effect occurs at multiple levels of processing, and this increases the likelihood of corresponding behavioral outcomes (e.g., Asendorpf et al., 2002).

The LIF used in Study 2 includes several sentences that are negatively-valenced (e.g., "Please don't do this to [*her, us, me*]; it is just not fair''), potentially priming negative affect. It is possible that this may have impacted people with low self-esteem more than people with high self-esteem (Richter & Ridout, 2011). Study 3 was designed to rectify this shortcoming.

Study 3

In Study 3 participants were asked to "translate" sentences in a foreign language and decide whether it contained a first person pronoun, second person pronoun, or third person pronoun (modelled after Davis & Brock, 1975). Consistent with past scholars (e.g., Davis & Brock, 1975), we reasoned that to the extent that self-related cognitions were accessible, participants would be more likely to determine that words were related to the self. Moreover, since the sentences were in a language incomprehensible to the participants, this task poses no potential for priming negative affect (Richter & Ridout, 2011). However, if individuals with low self-esteem are motivated to escape self-awareness when mortality is salient, they should be less likely to judge the pronouns as first person. In addition, to further establish that escape of self-related cognition occurs as a distal defense, we used a brief (200 milliseconds) supraliminal mortality prompt. Unlike in Studies 1 and 2, this mortality prime did not enable controlled, conscious, processing.

Method

Participants

Fifty-four English undergraduate students from the University of Kent (42 women and 12 men; *M*age = 21) participated for credit.

Procedure and Materials

Again, participants first completed the Rosenberg Self-esteem Scale (α = .84; *M* = 3.60, *SD* = .57) and some filler measures on a standard PC (equipped with Authorware 7.1 software). Then, participants were presented with a mortality salience priming task in which the word "dead" was flashed briefly (200 ms) in between items on a lexical decision task. This basic paradigm was borrowed from Fazio, Sanbonmatsu, Powell, and Kardes' (1986) work on the automatic activation of attitudes (see also, Wentura, 2000); presenting a prime for 200 ms in the context of a lexical decision task automatically activates the construct but is not enough time for controlled processing. Moreover, in contrast to Fazio et al. (1986), we used masked primes, substantially reducing the likelihood that the prime will be consciously processed (Kouider & Dehaene, 2007). Although primes of 200 ms are perceptible in isolation, if masked and in the context of a distraction, the majority of participants do not perceive such primes consciously (Dehaene & Naccache, 2001).

Specifically, for the task, participants were informed that they would see a string of letters that was either a real word or not, and that a preparatory stimulus of "xxxxx"s (with potential other letters flashing) would appear before the actual "word" or "non-word." They were instructed to decide as quickly as possible whether the string was a word or a non-word by pressing a "word" key (A) or a "non-word" key (6). Pressing a key removed the letter string from the screen. Participants were also told that the computer could remove the letter string before they responded so an additional task was to 'beat' the computer (creating additional time pressure, and thus, less potential for controlled processing, Wegner, 1994; no participants took more than the 2500 ms allocated between trails). The task involved 20 randomly presented trials of 10 real words (e.g. ball, umbrella) and 10 non-words (e.g. hoftle,

satpodi). The manipulation involved presenting the word "dead," in contrast to a string of a repeated letter ("oooo," as in Fazio et al.1986), in 10 out of the 20 trials for 200 ms in the centre of the screen (14-pt, *Callibri* font), masked by "xxxxx" (14-pt, *Callibri* font) appearing for 1000 ms. Participants were given two practice trials to familiarize themselves with the instructions.

We assessed mood with two simple questions about how participants felt (e.g., "How do you feel right now?" *1 = Worse than usual, 9 = Better than usual*) (α = .87). We derived an average positive affect score *(M* = 6.09, *SD* = 1.09). The items introduced a short delay, further assuring that death thoughts were not likely to be conscious at the time of the dependent measure.

Next, participants were presented with the measure of self-related cognition inspired by Davis and Brock's (1975) "translation task." The goal of the alleged translation task is to guess the correct pronoun in underlined parts of a number of sentences that are written in a foreign language (in fact, the underlined words were just random words and not necessarily pronouns, see Davis & Brock, 1975). The task consisted of 34 sentences in the Czech language, in which 49 words were underlined. For each underlined word, participants were asked to choose one of 15 possible pronouns, three of which were first person (me, I, and my). The possible total score of the number of self-related pronouns formed the dependent measurement of self-related cognition (*M* =19.91, *SD* = 4.24).

Finally, we asked whether participants were familiar with the Czech language (none were) and whether they perceived words or flashes of words during the lexical decision task, and, if so, to indicate which word(s) they recognized.

Results

To test the hypothesis that mortality salience decreases self-related cognition for individuals with low self-esteem, we conducted regression analysis with mortality salience

(dummy coded) and self-esteem (centered) entered in the first step, followed by the interaction term. The sum total of first person pronouns served as the dependant measure. The main effect of mortality salience was not significant (*p*s > .7). We did observe an effect of self-esteem on self-related cognition, *B* =.21, *SE* =.10, *t*(51) = 2.12, *p* = .039, such that higher self-esteem was associated with greater first-person pronoun allocation. However, as hypothesized, this effect was qualified by a significant interaction, *B* = -.63, *SE* =.18, *t*(51) = -3.42, *p* < .001, adjusted R^2 = .22 (see Figure 3). Consistent with the hypothesis, mortality salience, relative to the control condition, decreased implicit self-related cognition at low levels of self-esteem (-1 *SD*), *B* = -3.91, *SE* = 1.46, *t*(50) = -2.69, *p* = .010. In contrast, mortality salience increased implicit self-related cognition at high levels of self-esteem (+1 *SD*), *B* = 3.26, *SE* = 1.48, *t*= 2.20, *p* = .032. In addition, participants with low trait self-esteem, relative to those with high levels of trait self-esteem, showed lower implicit self-related cognition in the mortality salience condition *B* = .57, *SE* = .14, *t*(50) = 4.11, *p* < .001, but not in the neutral control condition, *B* = -.06, *SE* = .12, *t*(50) = -.50, *p* = .62.

Of note, 76 % of the participants in the mortality salience condition reported that they saw either no word or a word other than “dead” in response to the manipulation check, suggesting that the majority of participants did not consciously attend to the prime. Further, controlling for whether participants reported seeing the word “dead” or excluding these participants did not alter any of the reported results.

Discussion

Study 3 extends support for our hypothesis in several ways. First, the use of a subtle death prime (that most participants did not consciously perceive) provides further evidence that self-escape for people low in self-esteem occurs as a distal (activated but not conscious) defense to death thoughts. In addition, the dependent measure in this study, as in Study 2, bypassed self-report and tapped into an implicit tendency to avoid self-related cognitions.

Moreover, it accomplished this in a context free of potential linguistic associations with self-related valence or affect.

The findings of Study 3 replicate the finding that individuals with low trait self-esteem respond to mortality salience with efforts to escape the self. In contrast to Studies 1 and 2, there was also a significant effect for people with high self-esteem: High self-esteem individuals chose to focus more on themselves when mortality was salient. Although we did not make this specific prediction, it makes sense that people with high self-esteem would cope with mortality salience by activating, or "using," the self (Wisman, 2006). Indeed, as these individuals are able to self-enhance (Landau & Greenberg, 2007) when death is salient (e.g., Routledge et al., 2010), they should be more able to access meaningful structures to reduce existential self-discrepancies, as opposed to escaping the self. In contrast to the previous studies, we did not observe higher levels of self-related cognition for low self-esteem individuals in the control condition; rather, we just observed lower levels in the mortality salience condition.

Study 4

Whereas the previous studies assessed the degree that self-relevant cognition was activated, in Study 4, we gave participants a choice to focus on the self or not, predicting that people low, but not high, in self-esteem will actively choose not to write about the self more frequently after thinking about death. Further, according to OSA theory (Duval & Wicklund, 1972; Wicklund & Gollwitzer, 1981; 1982), self-focus is aversive particular when discrepancies are salient (causing people to want to escape). Therefore, we hypothesized that when people with low self-esteem did not opt out of writing about themselves, they would write about themselves more negatively.

Method

Participants

Sixty-six undergraduate students from the University of Kent (44 women and 22 men, M_{age} = 21.32) participated.

Procedure and Materials

Participants completed the Rosenberg's Self-esteem Scale (α = .84; *M* = 3.72, *SD* = .59) followed by the mortality salience manipulation used in Studies 1 and 2, or a parallel prompt about dental pain. After completing PANAS, (positive affect, α = .88; *M* = 3.30, *SD* = .79 and negative affect, α = .91; *M* = 2.08, *SD* = .83), participants were introduced to a "writing task" where they were asked to choose to write something about (a) themselves or (b) someone else. Specifically, a screen appeared with two choices: "Í would like to write about something that happened to me" or "I would like to write about something that happened to someone else." Participants could click on their preferred choice and were then invited to write as much as they liked in the available blank space. The choice to write about the self or someone else served as the primary dependent variable.

In addition, three coders read each essay and rate them on a 1 (*entirely negative*) to 5 (*entirely positive*) scale (Intraclass correlation = .91; see Shrout & Fleiss, 1979).

Results

To test if mortality salience predicts decreased preference for writing about oneself (writing about oneself was coded as '0' and writing about someone else as '1') for participants with low, but not high, self-esteem, we conducted a binary logistic regression analysis, in which the main effects for the experimental mortality salience manipulation (dummy coded) and self-esteem (centered) were entered at Step 1, followed by the interaction term at Step 2 (Menard, 2010). No main effects were observed (*p*s > .2). However, this logistic regression analysis revealed a significant mortality salience by self-esteem interaction, $\chi 2$ (1, *N* = 65) = 4.37, *p* =.037, Nagelkerke R^2 = .16.

For presentational purposes, we followed up the logistic regression with a similar binary logistic; but this time a median split was used to classify participants as low or high self-esteem (*Mdn* = 3.6). Consistent with the logistic regression, the 2 (mortality salience: high vs. low) x 2 (self-esteem: high vs. low) binary logistic analysis revealed the same significant mortality salience by self-esteem interaction, $\chi 2$ (1, N = 65) = 4.34, $p < .04$, on the percentage of participants choosing to write about themselves. As can be seen in Figure 4, a smaller percentage of participants with low self-esteem chose to write about themselves in the mortality salience condition compared to the control condition, $\chi 2$ (1, N = 34) = 4.30, $p <$ .04. By contrast, high self-esteem individuals chose more often to write about themselves in the mortality salience condition than the control condition, but this pattern was not significant ($p > .3$). These findings support our hypothesis that participants with low self-esteem have a decreased preference for self-related cognition after reminders of mortality.

We also examined the content of participants' essays with interest in a secondary hypothesis, that participants with low self-esteem who chose to write about themselves would write more negative content under conditions of mortality salience. Therefore, we conducted an additional regression analysis on the valence of the content for participants who opted to write about themselves. The results revealed a significant interaction between mortality salience and self-esteem, B = -.12, SE = .06, $t(44) = 2.14$, p = .038, adjusted R^2 = .08. As hypothesized, among participants who chose to write about themselves, mortality salience, relative to dental pain, increased the negativity of the essay at low levels of self-esteem (-1 *SD*), B = -1.28, SE = .61, $t(44) = -2.09$, p = .042, but not at high levels of self-esteem (+1 *SD*), B = 39, SE = .59, $t(44) = .66$, p = .51. Moreover, participants with low trait self-esteem, relative to those with high levels of trait self-esteem, showed more negativity in the mortality salience condition, B = .16, SE = .05, $t(44) = 3.19$, p = .003, whereas there was no effect of self-esteem in the control condition, B = -.03, SE = .04, $t(44) = -.67$, p = .50.

We repeated this analysis on people who chose to write about others. There were no main or interaction effects on the positivity of these essays (*p*s >. 3). Further, covarying length of participants' responses did not impact any of the reported results.

Discussion

Consistent with, and extending, the results of Studies 1 – 3, Study 4 provided evidence that people low, but not high, in self-esteem respond to reminders of mortality by opting not to focus on the self when given an option to write about themselves or about others. We also examined the essays that people wrote about themselves, and consistent with our hypothesis, participants with low self-esteem (but not high self-esteem) wrote more negative essays when mortality was salient compared to the control topic. Although, the sample for the latter analyses was a touch small (n = 48; power = .88), these findings suggest that self-related cognition is relatively more aversive when mortality was salient for people low in self-esteem. In conjunction these results suggest that not only do people with low self-esteem seek to avoid self-focus after mortality salience, but they seem to have good reason to do so; when they do not, they experience the self more negatively.

Study 5

Study 5 was designed to test the impact of the existential escape hypothesis on behavior measured in a natural, field setting. Given the health risks associated with alcohol consumption (e.g., Anderson & Baumberh, 2006) and the role of escaping self-awareness in the desire to drink, we tested this using alcohol consumption at a nightclub. There is evidence that people drink alcohol, in large part, to avoid self-awareness (cf., Hull, 1981): consuming alcohol reduces self-awareness (Hull et al., 1983) and people drink more under conditions that escape is predicted by OSA theory (when they are self-aware and experience a failure, Hull &Young, 1983). More recent extensions of this theorizing (Steele & Josephs, 1988) suggest that alcohol consumption specifically impairs (or covers over) self-awareness that

reflects negatively on the self. In addition, alcohol consumption has been found to increase in response to a wide range of death-related tragedies, including terrorist attacks (Vlahov et al., 2002) and grieving the loss of loved ones (Pilling, Thege, Demetrovics, & Kopp, 2012), and there is also evidence from laboratory experiments that death thoughts heighten intentions to binge drink (Jessop & Wade, 2010).

Thus, it appears that existential concerns may influence people's motivation to drink excessively. However, no research to date has investigated if there is a causal relationship between existential concerns and actual drinking behavior, and whether self-esteem would moderate an effect consistent with the existential escape hypothesis. We tested this by assigning people to write about their mortality or a control topic prior to a dance-club party on a university campus and, after the party, we assessed how much alcohol was consumed. As a logical extension of the previous four studies, we predicted that death thoughts would increase alcohol intake, but only for people low in self-esteem. Since participants who desired to consume alcohol had to go to the bar after the first part of the experiment to order a drink, we considered the time spent between the mortality salience prime and the alcohol consumption an extended delay, and as such, alcohol consumption would represent a distal response to thoughts of mortality.

Method

Participants.

Fifty-one undergraduate students (33 women and 18 men, *M*age = 20) participated in exchange for being entered into a raffle for, one prize of £50 (about $77), three prizes of £15 (about $23), and to have their £5 fee (about $7.50) for attending a nightclub party reimbursed upon completion of the study. Two participants did not complete all of the study materials, so their data was not used.

Procedure and Materials

Participants planning to go to a *Massive Mungos* event (a student bar/nightclub that hosts dance events) were recruited via our RPS (Research Participant Scheme) system and a student recruitment service, to participate in a study on personality characteristics and club behavior. Participants were offered reimbursement of entrance and a chance to win monetary prizes as compensation for participating. Volunteers were instructed to meet in the *Massive Mungos* bar from 19:00- 21:00 prior to the actual dance event in our provisional lab that consisted of ten separate chairs and tables that were separated to allow for privacy.

At the start of the first experimental session, participants completed some filler measures, along with the 10-item Rosenberg Self-esteem Scale (α = .80; *M* = 3.68, *SD* = .56). Participants were then randomly assigned to a mortality salience or a neutral (watching television) control condition (Greenberg et al., 1995) and then mood was immediately assessed using the PANAS (positive affect, α = .83; *M* = 3.07, *SD* = .76; negative affect, α = .78; *M* = 1.76, *SD* = .62). Following this, participants in both conditions completed a dot-to-dot task, and we asked if they had consumed any alcohol in the past 8 hours; both were to implement a delay and for the purpose of identifying any prior drinking. No participants showed signs of alcohol consumption.

Participants were then given a number that was written down with water resistant ink on their left hand. (This was done to aid in connecting Part I and Part II study materials for each participant). Participants were further informed that to have their £5 reimbursement they were expected back at the 'lab' (within the venue) at the latest between 1:00 am and 2:00 am (note that the last participant left the lab at 2:45). To help prevent suspicion, we also informed participants that the second part of the study would consist of more random questionnaires.

In the second part of the study, participants were welcomed into the lab, the total time spent in the club was logged (*M* = 4.86; *SD* = .79; *range* = 3.10), and then participants' breath alcohol level was administered with a breathalyser (the SD Lion). A breathalyser operates by

analysing the amount of alcohol concentration measured in the breath of the individual (BrAC), which research indicates is strongly correlated with the amount of alcohol in the blood (Dougherty et al., 2012). For example, 0.08 % BrAC indicates the individual to begin to feel the effects of alcohol, 0.35% is regarded as the drinking limit for driving and 2.17% refers to the stage of risk of entering a coma (Dougherty et al., 2012). Finally, participants were thanked, paid and debriefed.

Results

To test the main hypothesis that reminders of mortality predict increased alcohol consumption for individuals with low, but not high, self-esteem, we once again conducted regression analysis with the main effects for the mortality salience (dummy coded) and self-esteem (centered), followed by the interaction in a second step. The results revealed a main effect of mortality salience, indicating that reminders of mortality were associated with an increased level of alcohol consumption B = -.18, SE = .06, $t(50)$ = -2.95, p = .005. In addition, a main effect of self-esteem emerged, such that lower levels of self-esteem were associated with increased levels of alcohol consumption, B = -.03, SE = .001, $t(48)$ = -4.65, p < .001. These effects, however, were qualified by a significant interaction, B = .02, SE = .01, $t(47)$ = 2.28, p = .027, adjusted R^2 = .38. As predicted, mortality salience, relative to the control condition, increased BrAC levels at low levels of self-esteem (-1 *SD*), B = -0.31, SE = 0.085, $t(47)$ = -3.68, p < .001, but not at high levels of self-esteem (+1 *SD*), B = 0.38, SE = 0.84, $t(47)$ = 0.45, p > .6 (see Figure 5). In addition, participants with low trait self-esteem, relative to those with high levels of trait self-esteem, had higher BrAC levels in the mortality salience condition B = .03, SE = .01, $t(47)$ = 4.65, p < .001, but not in the neutral control condition, B = -.01, SE = .01, $t(47)$ = -1.14, p = .26. We also repeated the analyses controlling for the duration of time that participants spent in the club and the findings were unchanged.

Discussion

Study 5 supported the existential escape hypothesis and showed that reminders of mortality caused individuals with low self-esteem to engage in behavior conducive to escaping the self. Dance-club attendees who were low in self-esteem consumed more alcohol by the end of the party when they had previously written about their own mortality compared to writing about a neutral control topic. High self-esteem club attendees did not drink more or less alcohol in response to the mortality prime. Consistent with the results of the first four studies, these findings suggest that participants were motivated to escape the self relatively shortly after reminders of their own mortality.

With respect the mechanism that encouraged drinking during the course of the night, we suspect that the initial drinking after the reminders of mortality reduced self-control (Muraven, Collins, & Neinhaus, 2002) and encouraged further drinking during the night. However, there are alternative explanations. Participants may have made a conscious decision to binge drink that evening shortly after the reminders of mortality. Alternatively, the mortality salience manipulation may have lasted throughout the night and death thought accessibility may have spurred people with low self esteem to drink relatively more. Clearly, more research is necessary to determine the time course of existential self-escape in real life situations such as the one examined here. Nevertheless, these findings provide at least preliminary evidence that the position tested in Studies 1 through 4 extends to real world behavior—and indeed behavior that poses considerable health risk.

General Discussion

Integrating objective self-awareness theory (Duval & Wicklund, 1972; see also Higgins, 1987) and TMT (Greenberg et al., 1986), the existential escape hypothesis posits that as a distal defense against mortality salience, people low in self-esteem are driven to "lose the self" by avoiding self-awareness, and engage in behaviors that helps them "escape." Succinctly, this should occur because they are less able to successfully employ symbolic

defenses against mortality awareness. Unlike people high in self-esteem, people with low self-esteem are less likely to enhance the self as a distal response to mortality priming (Landau & Greenberg, 2006), and indeed they experience heightened negative affect, and reduced belief that life is meaningful (Routledge et al., 2010). Belief that the self is incapable of being who one ideally wants to be (or ought to be), and the negative affect stemming from that, are crucial factor in people's desire to self-escape (Duval & Wicklund, 1972).

In five studies, we found evidence in that people low in self-esteem respond to mortality reminders with outcomes indicative of escaping the self. Studies 1 demonstrated this with an explicit measure of private self-awareness, whereas Studies 2 and 3 used a more implicit measure of self-activation. In Study 4, in response to mortality salience, low self-esteem people actively chose to direct their focus away from the self and toward someone else, and moreover, when they did focus on the self, they showed heightened negativity, consistent with evidence that negative affect and negative self-views go hand-in-hand with escape (Mor & Winquist, 2002). Finally, Study 5 demonstrated an impact on behavior associated with escape from the self—alcohol consumption—in a naturalistic setting. People low in self-esteem drank more alcohol at a nightclub subsequent to being reminded of death. In no study did people high in self-esteem escape when mortality was salient. Together, these findings indicate that people low in self-esteem, and not those high in self-esteem, respond to mortality reminders with decreased self-awareness and efforts to decrease it further.

Theoretical Implications

The current findings advance understanding of TMT in a number of ways. Most basically, they depict a defense not previously conceptualized as part of TMT. In addition to the mortality salience hypothesis, the anxiety buffering hypothesis, and the death thought accessibility hypothesis, which all focus on symbolic defenses to manage the fears of death, these five studies provide evidence supporting the existential escape hypothesis, which

focuses on the arguably more direct route of avoiding self-awareness. Wisman (2006) first proposed the hypothesis; recently Kesebir and Pyszczynski (2011) came to similar conclusions, and suggested the need for research directly testing the impact of mortality reminders of escape behaviors. Thus, the hypothesis flows directly from TMT, and on the basis of this empirical evidence, suggests broadening TMT to designate escape as an alternative distal defense to the traditionally construed worldview and esteem-oriented modes of defense.

Moreover, the research extends prior research examining escape in response to conscious death thought (Arndt et al., 1998) to paradigms where mortality concerns are clearly no longer in conscious awareness, revealing that for individuals with low self-esteem (only), escaping the self operates as a distal defense. In short, we suggest that escape can function as both a proximal and distal defense. Proximal defenses are aimed at the removal of death thought from consciousness. It makes sense that escaping self-awareness would facilitate the suppression of death though. Arndt et al. (1998)'s findings are consistent with this interpretation. Distal defenses to the unconscious reverberation of death thought, in contrast, are oriented toward the self and the meaning system in which it resides. It follows that here we would expect moderation by self-esteem. This distinction consistent with other research where self-esteem has been found to moderate distal defenses (e.g., Routledge et al., 2010) and also with research on the terror management health model (TMHM; Goldenberg & Arndt, 2008) in which the same outcomes (e.g., exercise behavior) occur in response to conscious and non-conscious death thoughts, but only the latter are moderated by the relevance to self-esteem (e.g., Arndt, Schimel, & Goldenberg, 2003).

But does escaping the self help people cope with mortality concerns similarly to other distal defenses? Because of the role self-awareness plays in death awareness, curtailing self-focus should similarly mitigate the accessibility of death thoughts. But, we speculate that this

could be a temporary respite from death thoughts. Specifically, TMT research indicates that bolstering psychological structures that promote meaning, self-esteem or immortality eliminate death thoughts (e.g., Arndt et al., 1997). It is not clear how avoiding self-awareness, in itself, has any of these properties. In turn, once self-awareness occurs again following escape, death thoughts may again rise to the surface unless the escape involved action that bolsters the significance of the self or one's worldview (e.g., by drinking alcohol someone gains confidence to form a new friendship). Future research should examine the impact of avoiding self-awareness on death thought accessibility over time. Moreover, because many escape behaviors (e.g., binge eating, cutting, suicide attempts, alcohol and drug use) are likely to perpetuate negative self-views (e.g., Baumeister, 1991) (in addition to destructive health consequences), escaping the self in response to mortality salience could perpetuate the desire to subsequently escape even more in the future.

Finally, these studies may additionally shed light on the paradox of self-esteem: While there is evidence that people with high self-esteem are less defensive in response to mortality reminders (Harmon-Jones et al., 1997), there is also accumulating evidence that they are more so (Baldwin & Wesley, 1996; Hirschberger, Florian, & Mikulincer, 2002; Landau & Greenberg, 2006). For example, it is the people with high self-esteem that identify with esteem-relevant (e.g., the body) aspects of the self in response to mortality salience (Goldenberg & Shackelford, 2005). In our Study 3 individuals with high self-esteem responded with an increase in self-related cognition, and in the majority of studies there were trends in this direction. To the extent that people with high explicit self-esteem are able to activate meaningful self-related structures in response to mortality salience (explaining why they would be insulated somewhat from the repercussions of death thought), it makes sense that people high in self-esteem have more to lose and defend with respect to the self. Future research is necessary to continue to tease apart the variables that impact when people with

high self-esteem defend more and when they defend less, but the current findings provide insight into a mechanism— the operative motive to "use" or "lose" the self—that can help reconcile these divergent findings concerning the moderating role of self-esteem.

Implications for Health Behavior

Recognizing the conditions under which people will seek to escape the self has implications for health behavior, and the TMHM (Goldenberg & Arndt, 2008) in particular. One widely supported proposition of the TMHM is that people become more willing to risk their health when death thoughts are activated, but not conscious, if health risk behaviors provide the individual with self-esteem. For instance, people who derive self-esteem from tanning actually become more likely to tan and less likely to use sunscreen in response to mortality salience (e.g., Routledge et al., 2004). The current findings suggest, however, that health decisions in response to mortality reminders may also be influenced by the desire to escape self-awareness. Thus, in addition to drinking more alcohol in response to a mortality reminder, people with low self-esteem may be more likely to choose to engage in any number of behaviors (e.g., drug use, binge eating, smoking, even cutting) that are conducive to escaping self-awareness (Feldman, 1988; Hull et al., 1983; Stein et al., 2007). It also follows that health behaviors that require a focus on the self, such as looking in the mirror for a skin self-exam, or even going to a doctor for a check-up, or with a specific health concern, may be avoided by individuals with low self-esteem to the extent that thoughts of death are accessible (which is likely in the context of such health situations, Goldenberg & Arndt, 2008). Thus, it is not just the implications of behavior for self-esteem, but for self-awareness, that are relevant to health decision made in the context of accessible death thoughts.

The most extreme decision a person could make with respect to their health, to commit suicide, has been argued to be driven by a desire to escape self-awareness (Baumeister, 1991). Chatard and Selimbegovi (2011) demonstrated empirically that

providing evidence that individuals are falling short of important standards increases the accessibility of suicide-related thoughts. Other research indicates that suicide is preceded by negative changes in affect (Maris, 1981; at least prior to deliberating seriously about suicide, at which point a person presumably loses affect altogether, Baumeister, 1991), and by the perception that life is meaningless (Harlow, Newcomb & Bentler, 1986). Low self-esteem individuals escape when mortality is salient (current studies), and exhibit heightened negative affect, and reduced belief that the world is meaningful (Routledge et al., 2010), when mortality is salient. This suggests that for individuals with low self-esteem, death thoughts could exacerbate suicide risk, in so far as suicide facilitates escaping the self (Chatard & Selimbegovi, 2011, did not find increased suicide-thought accessibility in response to a mortality prime, Study 1, but they did not examine the interaction between priming death and self-esteem). Such reasoning not only provides a theoretical answer to the question of why people would ever consider suicide if they are motivated to avoid mortality concerns (raised by Muraven & Baumeister, 1997; Heine, Proulx, & Vohs, 2006; Chatard & Selimbegovic, 2011 as criticism of TMT), but provides a working model to test an interplay of factors that may promote suicide risk. We hasten to add, however, that someone actively considering suicide may respond very differently to thoughts of death than a person in a psychological experiment, and thus mixed methods research is recommended (Kral, Links, & Bergmans, 2011) before conclusions can be drawn.

Limitations and Future Directions

This research is not without limitations. First, it would be ideal to pit alternative defenses against one another in the context of a single experiment. Although we articulated a "lose" or "use" strategy for coping with mortality concerns, our studies were designed with "lose" scenarios in mind. It would be useful to provide opportunities for self-esteem—reducing the discrepancy—in conjunction with escaping the self and see if people high in

self-esteem consistently take the former route, and if people with low self-esteem are undeterred from escape. And, although Study 5 took a leap out of the laboratory and into a naturalistic context (a nightclub), additional research should extend the population beyond college students and test additional behaviors.

Finally, this research was limited to assessing outcomes as a function of individual differences in explicit trait self-esteem. Some research suggests that high implicit self-esteem confers the anxiety buffering properties that help to manage the awareness of mortality (Schmeichel et al., 2009); people with low implicit self-esteem may lack the ability to automatically access positive self-related frameworks that can aid terror management (Yang, Guan, Dedovic, Qi, & Zhang, 2012). Since the inability to generate meaningful and positive self-related structures (unconscious or conscious) is at the heart of self-escape, it is possible that implicit low self-esteem promotes existential self-escape (for a broader discussion see Schmeichel et al., 2009). This, and whether the impact of low explicit and low implicit self-esteem are additive when escaping under mortality salience, are matters for future research. In a similar vein, it is feasible that comparable effects would be observed as a function of a (either explicit or implicit) self-esteem manipulation. Additional research using such a paradigm would be helpful as a means of developing strategies to curtail reactions to mortality reminders that are rooted in potentially detrimental efforts to escape the self.

Concluding Remarks

Becker argued that the capacity for self-awareness sets human beings apart from other animals, ushering in not only significant cultural advancement but also an awareness of mortality. A substantial literature (e.g., Baumeister, 1991) and observation of human behavior—"drinking, drugging (shopping) himself out of awareness" (Becker, 1973)—depicts efforts to escape this self-awareness. Drawing on Becker, TMT, OSA theory, and previous theorizing (Wisman, 2006), the current perspective tested and provided evidence

supporting the existential escape hypothesis. Five studies demonstrated an empirical, causal link between non-conscious mortality concerns and escaping the self for people low in self-esteem—both self-reported and behaviorally, inside and outside of the laboratory. It is our hope that an understanding of *existential escape* can be used to spur research aimed at improving physical and mental health, as well as inspire continued empirical advances in the domain of self-regulation and beyond.

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Footnotes

1. For all reported studies, we report all data exclusions and all included measurements in text, in accordance with journal policy. Sample size was determined using an end of semester stopping point (Studies 1, 3, 4 and 5) and/or using a planned sample size (Studies 2) that would provide at least 80% power based on the average effect size of .35 (based on an average effect size found across hundreds of studies priming mortality; see Burke et al., 2010). At no point were additional data collected after data were initially analyzed
2. The effect of the MS X self-esteem interaction on positive and negative affect was not significant in any of the five studies; though in Study 2 there was a marginal effect (p = .07; higher self-esteem associated with more positive affect under MS). Critically, in all studies, the MS X self-esteem interaction remained significant when controlling for positive and negative affect, suggesting that the effects are not accounted for by changes in self-reported affect.

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